AMENDMENTS TO THE CLAIMS:

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1.-14.(Cancelled)

15.(New) A method for determining the humidity and/or density of a dielectric material in a resonator filled with the material, the resonator including a sender and a receiver, the method comprising:

emitting a signal by the sender;

sweeping a resonance curve of the filled resonator;

measuring appropriate signal strength values of the receiver signal at respective different frequencies;

determining a resonant frequency and a bandwidth for the filled resonator from points corresponding to the signal strength values of the receiver signal at the respective different frequencies measured; and

calculating at least one of humidity or density of the material by solving a second system of equations comprising the resonant frequencies and respective bandwidths of the empty and of the filled resonator and known calibration coefficients of the resonator.

16.(New) Method according to claim 15, wherein, from the points for determining the bandwidth of the filled resonator, either the quantities resonant frequency, resonator quality and resonance maximum are determined and the bandwidth is calculated therefrom, or cut-off frequencies are determined and the resonant frequency and the bandwidth are calculated therefrom.

17.(New) Method according to claim 15 or 16, wherein a lower threshold signal strength value is calculated and a second sweeping pass with smaller step sizes is performed in a range in which the signal strength values are higher than the threshold signal strength value.

18.(New) Method according to claim 15 or 16, wherein sweeping the resonance curve is performed in equally spaced steps.

19.(New) Method according to claim 15 or 16, wherein the sender is operated using a constant strength.

20.(New) Method according to claim 16, wherein the cut-off frequencies of the resonator are determined by:

determining a one of the points having a highest signal strength value, and, starting from said one of the points, calculating a threshold value;

determining two proximate points for positive and negative slope sections, the signal values of said two proximate points lying below and above the threshold value, respectively; and

calculating first and second cut-off frequencies therefrom by respectively interpolating between the two proximate points.

21.(New) Method according to claim 20, wherein the threshold value corresponds to an attenuation of 3 dB in relation to the highest signal strength value.

22.(New) Method according to claim 16, wherein the quantities resonant frequency, resonator quality and resonance maximum of the resonator are determined by:

at least one of arbitrarily or randomly selecting three of the points and solving a first system of equations to obtain resonant parameters, the system consisting of three equations of an analytic resonance curve valid for the three points.

23.(New) Method according to claim 16, wherein the quantities resonant frequency, resonator quality, and resonance maximum of the resonator are determined by:

at least one of arbitrarily or randomly selecting a set of the points for which a number is an integer multiple of three and is at least six, and splitting up the point set into three equally sized groups;

for each combination of three points, wherein each point comes from a different one of the groups, solving a first system of equations to obtain resonant parameters, the system consisting of three equations of the analytic resonance curve valid for said three points; and

for each of the resonant parameters, creating an average of values calculated at said combinations.

24.(New) Method according to claim 22 or 23, wherein, as a condition for the at least one of arbitrarily or randomly selecting the points, the signal value of a particular one of the points to be selected is higher than the highest signal value attenuated by 3 dB.

25.(New) Method according to claim 15 or 16, wherein the second system of equations describes, as at least an approximation, the correlation of

humidity and density with the variation of resonant frequency and resonator quality, or with the variation of resonant frequency and bandwidth, in a predefined range of humidity and density.

26.(New) Method according to claim 15 or 16, wherein the second system of equations is non-linear.

27.(New) Method according to claim 15 or 16, wherein the sweeping by the sender is performed up to the microwave area.

28.(New) Method according to claim 15 or 16, wherein voltage values or current values of the receiver are used for measuring the receiver signal.